

ALKALI-FREE ALUMINOBOROSILICATE GLASSES, AND USES THEREOF

ABSTRACT OF THE DISCLOSURE

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An alkali-free aluminoborosilicate glass having a coefficient of thermal expansion $\alpha_{20/300}$ of between $2.8 \times 10^{-6}/K$ and $3.8 \times 10^{-6}/K$, which has the following composition (in % by weight, based on oxide): silicon dioxide (SiO_2) > 58 - 65, boric oxide (B_2O_3) > 6 - 11.5, magnesium oxide (MgO) 4 - 8, barium oxide (BaO) 0 - < 0.5, zinc oxide (ZnO) 0 - 2 and aluminum oxide (Al_2O_3) > 14 - 25, calcium oxide (CaO) 0 - 8, strontium oxide (SrO) 2.6 - < 4, with barium oxide (BaO) + strontium oxide (SrO) > 3, or aluminum oxide (Al_2O_3) > 14 - 25, calcium oxide (CaO) 0 - < 2, strontium oxide (SrO) > 0.5 - < 4, or aluminum oxide (Al_2O_3) > 21 - 25, calcium oxide (CaO) 0 - 8, strontium oxide (SrO) > 2.6 - < 8, with barium oxide (BaO) + strontium oxide (SrO) > 3, and which is highly suitable for use as a substrate glass both in display technology and in thin-film photovoltaics.

09500-02005260